

IN THE CLAIMS

1-18. (Canceled).

19. (New) A method for determining coordinates of a workpiece (9) fastened to a movable structure, said movable structure having a reference object fastened thereto, comprising:
measuring, using a first coordinate measuring device (3), first coordinates of said workpiece (9) in a first coordinate system;

measuring, using said first coordinate measuring device (3), first coordinates of said reference object;

measuring, using a second coordinate measuring device (5), second coordinates of said workpiece (9) in a second coordinate system;

measuring, using said second coordinate measuring device (5), second coordinates of said reference object in said second coordinate system; and

determining, using said first coordinates of said reference object and said second coordinates of said reference object, a set of coordinates for said workpiece (9) including coordinate values derived from said first coordinates of said workpiece (9) and said second coordinates of said workpiece (9).

20. (New) The method of claim 19 wherein said first coordinate system is fixed relative to said workpiece (9).

21. (New) The method of claim 19 wherein said movable structure is a pallet.

22. (New) The method of claim 19, wherein the method comprises moving said movable structure from a first coordinate measuring device location after measuring using said first coordinate measuring device to a second coordinate measuring device location and before measuring using said second coordinate measuring device.

23. (New) The method of claim 19 further comprising:
measuring, using a third coordinate measuring device, third coordinates of said workpiece (9) in a third coordinate system;
measuring, using said third coordinate measuring device, third coordinates of said reference object in said third coordinate system; and
wherein said determining comprises using said first coordinates of said reference object, said second coordinates of said reference object, and said third coordinates of said reference object to generate a set of coordinates for said workpiece (9) including coordinate values derived from said first coordinates of said workpiece (9), said second coordinates of said workpiece (9), and said third coordinates of said workpiece (9).

24 (New) The method of claim 19 wherein said first coordinate measuring device (3) measures a different property of said workpiece than said second coordinate measuring device (5).

25. (New) The method of claim 19 wherein said first coordinate measuring device is designed to measure coordinates of points on a surface.

26. (New) The method of claim 19 wherein said second coordinate measuring device is designed to transirradiate said workpiece with radiation and derive coordinates for said workpiece from measurements of said radiation.

27. (New) The method of claim 19 wherein said measuring, using a second coordinate measuring device (5), second coordinates of said workpiece (9) in a second coordinate system comprises measuring in a spatial region wherein an edge or material interface of at least one of said workpiece and said reference object exists.

28. (New) The method of claim 19 wherein said steps of:

NEIFELD REF: EFFE0016UPCT-US

measuring, using said first coordinate measuring device (3), first coordinates of said workpiece (9) in said first coordinate system;

measuring, using said first coordinate measuring device (3), first coordinates of said reference object;

measuring, using said second coordinate measuring device (5), second coordinates of said workpiece (9) in a second coordinate system; and

measuring, using said second coordinate measuring device (5), second coordinates of said reference object in said second coordinate system; occur during at least one of producing and machining said workpiece.

29. (New) The method of claim 19 further comprising:

measuring a first temperature of at least one of said workpiece and said movable structure during said measuring, using said first coordinate measuring device (3), first coordinates of said workpiece (9) in said first coordinate system; and

measuring a second temperature of at least one of said workpiece and said movable structure during said measuring, using said second coordinate measuring device (5), second coordinates of said workpiece (9) in a second coordinate system.

30. (New) The method of claim 29 wherein said determining further comprises using coefficient of thermal expansion of materials of at least one of said movable structure and said workpiece to determine said set of coordinates for said workpiece.

31. (New) The method of claim 29 wherein said measuring a first temperature comprises measuring using a temperature sensor connected to said movable structure.

32. (New) The method of claim 19 further comprises sequentially moving additional workpieces into positions for measuring using said first coordinate measuring device and said second coordinate measuring device.

33. (New) An apparatus for determining coordinates of a workpiece (9) fastened to a movable structure, said movable structure having a reference object fastened thereto, comprising:
a first coordinate measuring device (3) for measuring first coordinates of said workpiece (9) in a first coordinate system;
said first coordinate measuring device (3), also for measuring first coordinates of said reference object;
a second coordinate measuring device (5), for measuring second coordinates of said workpiece (9) in a second coordinate system;
said second coordinate measuring device (5), also for measuring second coordinates of said reference object in said second coordinate system; and
a device for determining, using said first coordinates of said reference object and said second coordinates of said reference object, a set of coordinates for said workpiece (9) including coordinate values derived from said first coordinates of said workpiece (9) and said second coordinates of said workpiece (9).

34. (New) The apparatus of claim 33 wherein said movable structure is a pallet.

35. (New) A method of making an apparatus for determining coordinates of a workpiece (9) fastened to a movable structure, said movable structure having a reference object fastened thereto, comprising:
providing a first coordinate measuring device (3) for measuring first coordinates of said workpiece (9) in a first coordinate system;
said first coordinate measuring device (3), also for measuring first coordinates of said reference object;
providing a second coordinate measuring device (5), for measuring second coordinates of said workpiece (9) in a second coordinate system;
said second coordinate measuring device (5), also for measuring second coordinates of said reference object in said second coordinate system; and

NEIFELD REF: EFFE0016UPCT-US

providing a device for determining, using said first coordinates of said reference object and said second coordinates of said reference object, a set of coordinates for said workpiece (9) including coordinate values derived from said first coordinates of said workpiece (9) and said second coordinates of said workpiece (9).

36. (New) The method of claim 34 wherein said movable structure is a pallet.